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Definitions Matter for Studying Emotional Development

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The collection of articles presented by Pollak, Camras, and Cole (2019) provides a stimulating survey of the current state of research on emotional development. However, the special issue also makes apparent the need for defining the construct of interest. Definitions of emotions guide how researchers deal with fundamental theoretical and methodological issues in emotion research. In this commentary, we contrast 2 views of emotion: the structuralist and functionalist perspectives. We illustrate the consequences of each view for the design and interpretation of empirical research and highlight benefits of adopting a functionalist perspective on emotional development.

Keywords: emotion development, functionalism, structuralism

Definitions of emotions underlie theory and methods for studying emotional development. However, definitions vary: What one researcher calls emotion another may term affect or perception of affordances—or nothing at all (Fridlund, 1998; Pollak, Camras, & Cole, 2019; Russell, 2009). When different researchers unknowingly use different notions of emotions, miscommunication ensues, for instance about whether most infants become wary of heights (Bertenthal & Campos, 1984; Dahl et al., 2013; LoBue & Adolph, 2019). As noted by the editors of the special issue, providing an explicit definition of emotion “requires considerable time and thought” (Pollak et al., 2019, p. 1807). Yet, regardless of whether researchers make their definitions explicit, all researchers rely on an implicit definition whenever they use the word emotion. After decades of research on emotions and their development (Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983), a mature field of affective science would benefit from clarity on what researchers mean by emotion.

This paper interweaves two related claims. First, we argue that providing an explicit definition of emotion is both feasible and necessary for theoretical and empirical progress. Second, to illustrate the importance of definitions, we argue that a functionalist definition has distinct benefits over a structuralist definition for the study of emotional development.


Defining Emotions Is Both Feasible and Necessary

Definitions allow researchers to identify constructs of investigation and communicate relevant findings, thereby promoting scientific progress (Dahl, 2014, 2019; for an alternative view, see

Greene, 2007; Wynn & Bloom, 2014). This is particularly important for words that have multiple usages and everyday meanings, such as emotion. Although no single definition can capture all usages of the word emotion (Izard, 2010; Wittgenstein, 1953), the field would likely be in a far better place if, as a starting point, each researcher explained their own use of the word emotion. After all, idiosyncratic definitions are better than no definitions at all. Moreover, as we argue below, some definitions are more useful than others.

We and our collaborators adopt a functionalist approach to emotion (Barrett & Campos, 1987; Campos, Walle, Dahl, & Main, 2011; Dahl, Campos, & Witherington, 2011; Walle & Campos, 2012). We define emotion as responses to matters appraised as significant for the concerns of a person, which includes tendencies to establish, maintain, change, or terminate the relation between the self and matters of personal significance. Appraisal and action tendencies are key elements of this conceptualization of emotion (Frijda, 1986; Lazarus, 1991a; Moors & Scherer, 2013). Appraisal is the cognitive process of evaluating events as significant for their concerns, for instance about their own health, personal relationships, or professional careers. Action tendencies are inclinations to act in ways that promote those concerns, for instance demonstrating caution near a cliff’s edge, signaling a need for comfort, or meditating to achieve calm.

Functionalist approaches contrast with structuralist approaches to emotion (Barrett et al., 1987; Campos et al., 2011; Witherington & Crichton, 2007). Structuralist approaches characterize emotions as signature combinations of internal feelings states, physiological arousal, facial expressions, or brain states that are expected to co-occur. Thus, structuralist approaches typically hypothesize a high correlation between (a) stimulus and emotion and (b) emotion and expression, such that the presence of some stimulus (e.g., a cliff or a snake) should elicit a corresponding emotional reaction (e.g., fear), and the presence of a behavior (e.g., avoidance) should be indicative of an emotion (e.g., fear). Thus, the structuralist view clearly differs from the functionalist view, which asserts that the emotion flows from the relation of the individual with the context—the elicitor and the individual are inseparable. From the

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functionalist view, emotions are not caused by the stimulus, just as water is not caused by hydrogen; it is the relation between the elements (i.e., person and environment) that is the emotion.

Methodological Implications and Opportunities of Emotion Definitions

How researchers define emotion leads to important downstream consequences for studying its development (Holodynski & Seeger, 2019; Vaish, 2019). Below we illustrate some instances of how functionalist and structuralist approaches lead to radically different assumptions about how emotions are (a) elicited and (b) assessed in research. In doing so, we articulate our rationale for adopting a functionalist definition of emotion.

Variability in Relations Between Elicitors and Emotions

A striking fact of emotions, to be accounted for by any viable theory, is that the same stimulus can elicit different emotions (see Campos, Frankel, & Camras, 2004; Lazarus, 1991b). Variability in elicitor-emotion relations abound across contexts, cultures, and development.

Structuralist and functionalist conceptualizations of emotions offer divergent predictions and explanations for relations between elicitors and emotions. Consider first the contention, adopted by some structuralist accounts, that a fear eliciting stimulus elicits fear when the stimulus is present and increases that fear as “the proximity of the threat increases” (LoBue & Adolph, 2019, p. 1890): If the stimulus does not elicit fear in some context, the organism cannot be said to fear the stimulus. Based on this conceptualization of fear, LoBue & Adolph (2019) propose that infants who are afraid of heights should always show a fearful face in the presence of a drop-off. Based on the observation that infants sometimes smile at the edge of a visual cliff, the authors conclude that infants are not afraid of heights (for a similar critique, see Vaish, 2019).

From a functionalist perspective, what is lost in the structuralist expectation of a 1:1 mapping of stimulus to emotional expressions is that the emotion is a relational phenomenon. It is not the stimulus alone that generates the emotion but rather the child’s relation with the stimulus. Part and parcel of this relation is the child’s perceived coping potential, which can vary across contexts. Indeed, it is this coping potential that can elicit the thrill of facing such fears. A skydiver may be similarly afraid of dying as the reader, but the experienced skydiver perceives a level of control (by way of the parachute) that short-circuits such fear and engenders excitement (Lazarus, 1991b). Remove the parachute, force the skydiver to jump from the plane, and fear will be plain to see.

The functionalist approach thereby offers a useful way of understanding the claim that most infants become wary of heights. From a functionalist perspective, the claim does not mean that infants always show signs of fear whenever they are in the presence of a drop-off. Rather, stating that infants become wary of heights means that infants become concerned with managing their relation to the drop-off in a way that reduces the risk of a fall. Infants can manage their relation to the drop-off in several ways, such as complete avoidance, cautious approach, reliance on adults catching them, or facial signaling of fear (see below). Thus, rather than stating whether infants fear specific stimuli, it would be more

accurate (and constructive) to state that specific person-environment relations are necessary to elicit the emotion of interest for the researcher.

To explain why emotional reactions are so variable, one must consider how individuals appraise events as relevant to their concerns (Frijda, 1986)—the needs, goals, and issues that people care about. Consider how cultures, and individuals within cultures, differ in the how they appraise the same event. Distinct appraisal dimensions across cultures (Kitayama & Markus, 1990) suggests that one’s social context guides the development of specific—or even all—dimensions (see Markus & Kitayama, 1991). Likewise, the child’s developmental context fine-tunes how stimuli are perceived (Yoshida, Kojo, & Kaku, 1982), the emotional experiences sought (Tsai, Louie, Chen, & Uchida, 2007), and appreciation for social contexts within which emotions are expressed (e.g., Masuda et al., 2008). Holodynski and Seeger (2019) provide a useful framework of how cultural practices may influence emotion experience and anthropological research similarly suggests a strong link between cultural practices, parental socialization, and emotional experience (for a review, see Oatley, 1993).

Distinct conceptualizations of emotion result in widely different views regarding the correspondence between elicitors and emotions. We argue that that a functionalist perspective better situates researchers to examine the development of specific appraisal dimensions and how appraisals are applied to relationally significant elements of the environment.

Variability in Emotion Signals

Definitions of emotions also guide hypotheses and inferences about emotional signals and other indices of emotions. Just as the same event does not always engender the same emotion, emotional signals do not demonstrate a 1:1 mapping with emotions (Holodynski & Seeger, 2019; Vaish, 2019).

From a structuralist perspective, the expressive behavior of the organism provides a readout of the internal experience. For example, when an infant looks at a drop-off with a neutral expression, a structuralist view implies that the infant is content with, not wary of, heights. However, the inference from a neutral facial expression to an absence of fear rests on an unsupported assumption: Although emotional states are sometimes accompanied by their prototypic facial configurations, they frequently are not (Castro, Camras, Halberstadt, & Shuster, 2018; Matsumoto & Hwang, 2014; Russell, 1995). In contrast, a functionalist approach proposes that individuals use emotion signals as a function of what they are trying to do (Holodynski & Seeger, 2019; for a related account, see Fridlund, 1998). Thus, the same emotional state can be reflected by different signals.

Exemplifying a functionalist approach, Ueno, Uchiyama, Campos, Dahl, and Anderson (2012) operationalized wariness of heights as efforts to manage concerns with preventing a dangerous fall. How infants show such wariness depends on their relation to the threat and appreciation for their own coping potential in the perceived context. When locomoting infants perceive an immediate and unavoidable threat, they show fearful expressions and increased heart rate (Campos, Bertenthal, & Kermoian, 1992; Dahl et al., 2013; Hiatt, Campos, & Emde, 1979). In contrast, when locomoting infants are free to manage their relation to the drop-off, they rarely show intense facial expressions of fear (Campos, Thein, &

Owen, 2003). Instead, they show different behavioral strategies for preventing a fall, ranging from avoiding the drop-off altogether to approaching or circumventing the drop-off with caution (Campos, Hiatt, Ramsay, Henderson, & Svejda, 1978; Campos et al., 2003; Ueno et al., 2012). Each of these emotional response patterns signal wariness of heights within a functionalist framework, insofar as they reflect infants' concerns with preventing a fall.

Importantly, rather than looking for correlations among different emotional signals, a functionalist view seeks convergence of function. Theoretical and empirical evidence linking emotions with their functions, expressions, cognitions, action tendencies, and goal-directed behaviors provides a guide for developmental researchers (see Barrett et al., 1987; Frijda, Kuipers, & ter Schure, 1989; Moscolo & Fischer, 1995; Roseman, 2001). Whereas some researchers may raise concerns about the subjectivity of inferring individuals' goal-directed behaviors, research demonstrates that this approach is contextually flexible, ecologically valid, and reliable across coders in empirical research (e.g., Gottman, McCoy, Coan, & Collier, 1996; Walle, Reschke, Camras, & Campos, 2017). For example, infants may demonstrate felt security by holding onto, looking at, vocalizing toward, or moving toward the caregiver—behaviors discrepant in structure (e.g., physical distance to caregiver) but analogous in function (for a superb review, see Sroufe & Waters, 1977).

Moreover, the flexibility inherent in the functionalist approach allows researchers to study how the same emotion can be manifested in different forms at different developmental stages (see Mascolo & Fischer, 2015) and in different developmental contexts (e.g., Tsai et al., 2007). For instance, prelocomoting and locomoting infants have different abilities to cope with the same emotion-eliciting context, and these abilities guide their emotional responses. Whereas an angry 6-month-old may be able only to bite or pull the hair of someone physically close to them, a frustrated toddler can run up to another person and inflict harm with a hard toy (Hay et al., 2014). A functionalist perspective positions developmental researchers to examine variability in the means and ends of emotions.

Conclusion

Definitions of emotion have significant consequences for how researchers design studies and interpret results. Our discussion of the functionalist and structuralist approaches exemplifies how varying views of emotion guide research. In our view, the functionalist approach enables the study of developmental transitions that are salient in the lives of children and their families. Caregivers perceive changes in emotional development by observing how their child interacts with the world, not by relying on physiological indices, facial readouts, or 1:1 stimulus-response relations. We argue that a functionalist approach to emotion captures the flexible and multifaceted nature of emotion and offers a rich framework for studying its development.

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